Special Article

Society for Acute Medicine undergraduate syllabus for Acute Internal Medicine

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Introduction

This syllabus is intended to act as a guide for students and their instructors in medical schools. It describes the range of clinical presentations that they should be able to recognize and the underlying conditions that they should know how to treat. It also includes knowledge of the practice of Acute Internal Medicine and systems of care. The appropriate level of knowledge is that which would be expected of a non-specialist Foundation level doctor.

It is expected that students will have a working knowledge of anatomy, physiology, pathophysiology, pharmacology and therapeutics.

Many of the items in this syllabus can be delivered in a variety of acute care settings, e.g., the Emergency Department, medical specialties, and the Intensive Therapy Unit (ITU), but attachment to an Acute Medical Unit provides an ideal opportunity to see the delivery of acute care in this specific context.

The Acute Medical Unit (the 'AMU')

The Acute Medical Unit (AMU) is defined as 'a dedicated facility within a hospital that acts as the focus for acute medical care for patients that have presented as medical emergencies to hospitals or who have developed an acute medical illness while in hospital'.

The AMU remains the area in the hospital to focus the work done by Acute Medicine teams, with the multiple facets of care delivered there by the whole multidisciplinary workforce.

The precise roles of the AMU can vary from hospital to hospital but 'core functions' now include:

1. The assessment, investigation, and stabilisation of patients with an acute medical 'need' referred from the community or Emergency Department (ED)
2. The onwards referral of patients to an appropriate speciality bed base/team for ongoing specialist care
3. Continuing care of patients with an expected length of inpatient care no greater than 72 hours
4. Enhanced medical care (i.e., level 1) as outlined in the ICS document from 2021 which may include the delivery of Non-invasive Respiratory support (e.g., High Flow Nasal Oxygen, BiPAP)
5. Same Day Emergency Care (RAC in Scotland) – as described in the NHSE/RCPE/SAM documentation these areas are often embedded or adjacent to the AMU - AIM teams look after a large proportion of those treated by SDEC pathways

A patient admitted to the AMU will receive care that will include the necessary investigations and management required until the patient is discharged, stabilised or transferred to an appropriate specialty or to a higher level of care.Currently it is estimated that at least 60% of all people admitted to UK hospitals for non-elective care needs are treated at some point by Acute Medicine teams.

Generic aspects of Acute Internal Medicine

Students should be able to describe the following concepts:

1. The role of Acute Internal Medicine (AIM) and the acute medical unit (AMU)
2. The organization and overall management of the acute medical take
3. The process of diagnostic reasoning including appropriate use of radiology and laboratory services
4. Assessment of the acutely ill patient using the ABCDE approach
5. Principles of resuscitation including:
   - Ceilings of Therapy
   - Escalation and enhanced care
   - The role of the Medical Emergency Team (MET)
6. The interfaces between AIM and other specialties
   - Emergency Medicine
   - Intensive Care Medicine
   - Medical specialties
   - Palliative Care
   - Primary Care
   - Psychiatry
7. Ambulatory Care including Same Day emergency Care (SDEC) and Rapid Ambulatory Care (Scotland)

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8. Principles of patient flow
9. Discharge planning
10. Ethical and legal aspects of acute care including:
    - Ceilings of therapy
    - Deprivation of liberty (DoLs)
    - Documentation and record keeping End of life care (EoLC) and Do Not Attempt Cardiopulmonary Resuscitation (DNACPR) decisions
    - Resource allocation and prioritization
11. Prescribing in acute care, including:
    - Blood products
    - Medications
        - Analgesics
        - Antibiotics
        - Antiemetics
    - Fluids
12. Acute care for special populations including
    - Patients with immunocompromise
    - Patients who are perioperative
    - Patients who are pregnant
    - Patients who are returning travelers

Presentations and conditions in Acute Internal Medicine

Adapted from the Joint Royal Colleges of Physicians Training Board curriculum for Internal Medicine (Stage 1) https://www.jrcptb.org.uk/sites/default/files/IM_Curriculum_Sept2519.pdf

NB: This list is not exhaustive

Presentations

Students should be able to describe an appropriate diagnostic strategy and produce a justified differential diagnosis of the following clinical presentations.

Systems

Students should be able to describe how the anatomy, physiology, and pathophysiology of the organ systems listed below related to the following conditions.

Conditions

Students should be able to explain the pathophysiology and treatment options for the conditions listed below.

Presentations	System	Conditions
Abdominal mass/swelling	Gastroenterology	Ascites Malignancy
Abdominal pain	Gastroenterology / Gynaecology / Urology	Bladder outflow obstruction Functional disorders Gallstone disease GI malignancy Gynaecological disorders Pancreatitis Peptic ulcer disease Renal stones
Acute kidney injury	Renal Medicine	Multifactorial
Acute poisoning	Psychiatry / Therapeutics	Acute poisoning (accidental/non-accidental)
Acutely swollen joint	Infectious diseases / Rheumatology	Gout/CPPD Septic arthritis
Adverse drug reactions	Therapeutics	Adverse drug reactions
Altered sensation	Neurology	
Anaemia	Gastroenterology / Haematology	Dietary intake GI blood loss Malabsorption Menorrhagia Pernicious anaemia
Anaphylaxis	Dermatology Therapeutics	Severe allergy
Back pain	Rheumatology	Cauda Equina Syndrome Musculoskeletal pain

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Bleeding/bruising	Gastroenterology / Haematology / Therapeutics	Anti-coagulant/anti-platelet therapies Bone marrow disease Liver disease
Blood glucose abnormalities	Endocrinology	Diabetes mellitus
Breathlessness	Cardiovascular/Respiratory	Anaemia Asthma Bronchiectasis Cardiac failure (Incl. heart valve disease) Chronic obstructive pulmonary disease Diffuse parenchymal lung diseases Malignant diseases of the respiratory system Metabolic Acidosis Occupational lung diseases Pneumonia Pneumothorax Pulmonary embolism
Care of the dying patient	Palliative Medicine	Analgesics Anxiolytics Management of breathlessness
Chest pain	Cardiovascular / Respiratory	Coronary heart disease Costochondritis Gastro-oesophageal reflux Pericarditis Pneumonia Pneumothorax Pulmonary embolism
Cough +/- sputum =/- haemoptysis	Respiratory	Asthma Bronchiectasis Chronic obstructive pulmonary disease Malignant diseases of the respiratory system Pneumonia Post nasal drip
Delirium	Elderly care medicine Neurology Psychiatry Therapeutics	Metabolic Primary brain pathology Sepsis Toxins
Drug and alcohol effects	Psychiatry / Therapeutics	Drugs and alcohol abuse
Dysuria	Infectious diseases / Renal Medicine	Urinary tract infection
Electrolyte disturbance	Endocrinology / Renal Medicine / Therapeutics	Adverse drug effects AKI/CKD Endocrinopathies
Falls	Elderly care medicine / Therapeutics	Multifactorial
Fever	Infectious diseases / Rheumatology	Infection (typical/atypical) Inflammation
Fever in a returning traveller	Infectious diseases	Infection
Flank pain	Infectious diseases / Renal Medicine	Pyelonephritis Renal stone disease
Haematemesis	Gastroenterology	Mallory Weiss tear Oesophageal varices Peptic ulcer disease
Haematuria	Renal Medicine	Renal stone disease Tumour of urinary tract Urinary tract infection

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Headache	Infectious diseases / Neurology / Rheumatology	Cervicogenic headache Cluster headache Meningitis Migraine Pressure headache Subarachnoid haemorrhage Temporomandibular joint dysfunction Tension headache
Head injury	Neurology	Epidural haemorrhage Intracerebral haemorrhage Subarachnoid haemorrhage Subdural haemorrhage
Hypertension	Cardiology / Endocrinology / Renal Medicine	Conn's syndrome Chronic renal disease Essential Hypertension Phaeochromocytoma Reno-vascular disease
Isolated skin lesion	Dermatology	Cutaneous reactions to drugs Cutaneous vasculitis, connective tissue diseases and urticaria Dermatitis / eczema Infections of the skin and soft tissues Shingles
Itch	Dermatology	Cutaneous reactions to drugs Cutaneous vasculitis, connective tissue diseases and urticaria Dermatitis / eczema Infections of the skin and soft tissues Shingles
Jaundice	Gastroenterology / Haematology	Biliary problems Haemolysis (anaemia) Hepatocellular disease
Limb pain / swelling	Cardiovascular / Haematology / Infectious diseases	Cellulitis Deep venous thrombosis
Lymphadenopathy	Haematology / Infectious diseases	Haematological malignancy Infections
Medically unexplained symptoms	Psychiatry	Medically unexplained symptoms
Movement disorders	Elderly care medicine / Neurology	Parkinson's Disease Parkinsonism
Nausea and vomiting	Gastroenterology	Functional disorders Gastroenteritis Gallstone disease Peptic ulcer disease Systemic disease
Oedema	Cardiovascular / Gastroenterology / Renal Medicine	Cardiac failure Liver failure Lymphoedema Medication effects Nephrotic syndrome
Palpitations	Cardiovascular	Arrhythmias
Polyarthropathy	Rheumatology	Osteoarthritis Reactive arthritis Rheumatoid arthritis
Polyuria	Endocrinology / Renal Medicine	Diabetes mellitus Hypercalcaemia

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Rash	Dermatology	Cutaneous reactions to drugs Cutaneous vasculitis, connective tissue diseases and urticaria Dermatitis / eczema Infections of the skin and soft tissues Shingles
Seizures	Neurology	Epilepsy and disorders of consciousness
Stroke and TIA	Elderly care medicine / Neurology	Cerebrovascular diseases
Swallowing problems	Elderly care medicine / Gastroenterology	Bulbar weakness/CVA Oesophageal dysmotility or stricture
Transient loss of consciousness	Cardiovascular / Neurological	Cardiac arrhythmias Heart valve disease Seizures Syncope and pre-syncope
Urticaria / angioedema	Dermatology / Therapeutics	Cutaneous reactions to drugs Cutaneous vasculitis, connective tissue diseases and urticaria
Weakness	Neurology	Cerebrovascular diseases CNS tumours Disorders of the spinal cord
Weight loss	Endocrinology / Gastroenterology / Psychiatry	Diabetes mellitus Eating disorders Malabsorption Malignancy Thyrotoxicosis
Wheeze	Cardiovascular / Respiratory	Asthma Cardiac wheeze Chronic obstructive pulmonary disease

Emergency presentations

Students should be able to describe the immediate management of the following conditions.

1. Anaphylaxis
2. Acute asthma
3. Acute coronary syndromes
4. Acute poisoning - paracetamol
5. Adrenal insufficiency crisis
6. Diabetic ketoacidosis / hyperosmolar hyperglycaemic state
7. Exacerbation of COPD
8. Meningitis / encephalitis
9. Pneumothorax
10. Pulmonary embolism
11. Pulmonary oedema
12. Sepsis
13. Shock
14. Status epilepticus
15. Upper GI haemorrhage

Skills and procedures

Observation

Indicative things to potentially see in Acute Internal Medicine

- Central line insertion
- Instructing patients in the use of devices for inhaled medication.
- Lumbar puncture
- Observe pulmonary function tests: Peak expiratory flow rate (PEFR) / spirometry
- Observation of setting up intravenous fluids
- Observation of dosage and administration of diabetes medications including Subcutaneous
- Observe preparation of drugs for parenteral administration
- Observe setting up and monitoring a blood transfusion
- Pleural-fluid examination
- Point of care ultrasonography / echocardiography

Skills

Indicative things to potentially perform in Acute Internal Medicine

- Blood culture sampling
- Capillary blood glucose measurement
- Collection of urine sample and urinalysis
- Managing blood samples
- Peak flow measurement
- Perform and interpretation of ECGs

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